

IN THE CLAIMS

Please cancel claims 1-20, all of the claims in the subject U.S. patent application, as filed, as constituted by the verified translation of PCT/EP2005/051458. Please also cancel claims 1-17 as submitted by KBA under Article 34 on October 24, 2005.

Please add new claims 21-37 as follows:

Claims 1-20 (Cancelled)

21. (New) A product processing system usable to further process previously initially processed products comprising:

- a processed product conveying track;

- a shunt splitting said conveying track into at least first and second alternative transport tracks, and having a shunt drive motor, each of said alternative transport tracks having a drive mechanism;

- a first longitudinal folding apparatus in said first alternative transport track and having a first folding blade driven by a first folding blade motor;

- a second longitudinal folding apparatus in said second alternative transport track and having a second folding blade driven by a second folding blade motor;

- a first sensor adapted to detect a product phase relationship and being located in said product conveying track before said shunt;

- a shunt drive motor control device in contact with said first sensor;

a second sensor in each said first and second alternative transport tracks and usable to determine a processed product passage time; and

a first folding blade motor control device and a second folding blade motor control device, each said second sensor controlling said folding blade motor control device of an associated one of said first and second alternative transport tracks independently of said associated one of said first and second alternative transport tracks drive mechanism in accordance with said processed product passage time.

22. (New) A product folding apparatus comprising:

a transport track adapted to transport a product and having a transport track drive mechanism;

a longitudinal folding apparatus connected to said transport track and adapted to receive the product from said transport track;

a folding blade in said longitudinal folding apparatus;

a folding table supporting said folding blade;

a folding blade drive motor usable to raise and lower said folding blade with respect to said folding table through a folding blade drive gear and being independent of said transport track drive mechanism;

a folding blade drive motor control device; and

a product sensor associated with said transport track and usable to detect a product phase relationship for determining a product passage time, said product sensor controlling said folding blade drive motor.

23. (New) The product folding apparatus of claim 22 further including a folding blade support lever pivotably attached to said folding table.

24. (New) The product folding apparatus of claim 22 further including a movable buffer in said longitudinal folding apparatus and usable to slow down a product entering said longitudinal folding apparatus along a product travel path at a product entry speed.

25. (New) The product folding apparatus of claim 24 further including means moving said buffer along said product travel path at a buffer speed less than said product entry speed.

26. (New) The product folding apparatus of claim 24 further including a buffer drive mechanism which is independent of said transport drive mechanism.

27. (New) The product folding apparatus of claim 26 wherein said product sensor controls said buffer drive mechanism.

28. (New) The product folding apparatus of claim 24 wherein said movable buffer is an endless belt and further including a rotatable body supporting said endless belt, said endless belt extending along said product travel path.

29. (New) The product folding apparatus of claim 24 wherein said movable buffer is a moving endless belt having a section extending along said product travel path.

30. (New) The product folding apparatus of claim 22 further including a shunt arranged before, in a direction of product travel, said longitudinal folding apparatus and usable to selectively supply products to said longitudinal folding apparatus.

31. (New) The product folding apparatus of claim 30 further including a shunt drive mechanism and a shunt drive mechanism control device and further including a shunt sensor located before said shunt and usable to actuate said shunt drive mechanism control device.

32. (New) The product folding apparatus of claim 31 wherein said shunt drive mechanism control device synchronizes a shunt operating position with a detected product phase relationship using said shunt sensor.

33. (New) The product folding apparatus of claim 22 wherein said product sensor is usable to synchronize movement of said folding blade with said product phase relation.

34. (New) The product folding apparatus of claim 24 wherein said product sensor is usable to synchronize said movement of said buffer using said product phase relationship.

35. (New) A method for the synchronous operation of a folding apparatus including alternative product processing paths including:

providing a first product processing path;

locating a shunt in said first product processing path;

using said shunt and dividing said product processing path into at least first and second alternative product processing paths;

providing product processing stages in said first and second alternative product processing paths;

providing a sensor in said first product processing path before, in a direction of product travel, said shunt;

determining a product phase relationship using said sensor;

using production standards and conducting said product flow into one of said alternative product processing paths using said shunt;

synchronizing an operating position of said shunt with said product phase relationship based on signals from said sensor;

providing a second sensor after said shunt and before each of said product processing stages;

using each said second sensor and determining a product passage time no later than a time of entry of the product entry into each said product processing stage;

providing a folding blade and a folding table supporting said folding blade in each said product processing stage;

providing a folding blade drive mechanism and control device; and

synchronizing said folding blade drive blade with said product phase relationship using said second sensor.

36. (New) The method of claim 35 further including synchronizing said shunt operating position with said product phase relationship using a shunt control device.

37. (New) The method of claim 35 further including synchronizing said folding blade with said product phase relationship using said folding blade control device.